CLAIMS

What is claimed is:

1. A storable, low-density, hydraulically-active, cementitious slurry comprising:
   (a) a hydraulically-active cementitious material;
   (b) a set retarder;
   (c) a plasticizer;
   (d) glass or ceramic micro-spheres; and
   (e) a strengthening agent
   wherein the slurry is substantially free of a suspension agent.

2. The storable, low-density, hydraulically-active, cementitious slurry of Claim 1, wherein the set retarder is selected from the group consisting of hydroxycarboxylic acids, glucoheptonates, lignin sulfonates, gluconates, phosphonates, and sugars.

3. The storable, low-density, hydraulically-active, cementitious slurry of Claim 1, wherein the plasticizer is selected from the group consisting of melamine sulfonic acid polymer, sodium polyacrylate, sodium salt of naphthalene sulfonate formaldehyde condensate, napthalene sulfonic acid polymer, and sulfonated styrene maleic anhydride polymer, or a mixture thereof.

4. The storable, low-density, hydraulically-active, cementitious slurry of Claim 3, wherein the plasticizer is sodium partially neutralized polyacrylate homopolymer.

5. The storable, low-density, hydraulically-active, cementitious slurry of Claim 1, wherein the glass or ceramic micro-spheres are of a density and an amount sufficient to effectuate a density to the storable, cementitious slurry between from about 6 to about 13 lbs/gallon.

6. The storable, low-density, hydraulically-active, cementitious slurry of Claim 1, wherein the microspheres comprise borosilicate glass.

7. The storable, low-density, hydraulically-active, cementitious slurry of Claim 1, wherein the microspheres are ceramic.

8. The storable, low-density, hydraulically-active, cementitious slurry of Claim 1, wherein the strengthening agent is silica fume, aluminosilicate, fly ash, alumina, aluminum metal powder, manganese oxide fume, ferro-silicon fume, wollastonite, hydrated calcium sulphoaluminate, sodium sulfate, sodium nitrate, sodium chloride, calcium sulfate or potassium sulfate.

9. The storable, low-density, hydraulically-active, cementitious slurry of Claim 9, wherein the strengthening agent is silica fume.

10. A method of making a storable, low-density, hydraulically-active, cementitious slurry which comprises the steps of:

(a) adding glass or ceramic micro-spheres to a hydraulically-active cementitious material;

(b) adding a strengthening agent to the composition of (a); and

(c) mixing composition (b) with water, a set retarder, and a plasticizer to generate a slurry, wherein the set retarder is present in an amount sufficient to allow storage of the slurry

wherein the slurry is substantially free of a suspension agent.

11. The method of Claim 10, wherein the set retarder is selected from the group consisting of hydroxycarboxylic acids, glucoheptonates, lignin sulfonates, gluconates, phosphonates, and sugars.

12. The method of Claim 10, wherein the plasticizer is selected from the group consisting of melamine sulfonic acid polymer, sodium polyacrylate, sodium salt of naphthalene sulfonate formaldehyde condensate, napthalene sulfonic acid polymer, sulfonated styrene maleic anhydride polymer or a mixture thereof.

13. The method of Claim 12, wherein the plasticizer is sodium partially neutralized polyacrylate homopolymer.

14. The method of Claim 10, wherein the glass or ceramic micro-spheres are present at a density and an amount sufficient to effectuate a density to the slurry between from about 6 to about 13 lbs/gallon.

15. The method of Claim 10, wherein the glass or ceramic micro-spheres comprise borosilicate glass.

16. The method of Claim 10, wherein the glass or ceramic micro-spheres comprise ceramic.

17. The method of Claim 10, wherein the strengthening agent is silica fume, aluminosilicate, fly ash, alumina, aluminum metal powder, manganese oxide fume, ferro-silicon fume, wollastonite, hydrated calcium sulphoaluminate, sodium sulfate, sodium nitrate, sodium chloride, calcium sulfate or potassium sulfate.

18. The method of Claim 17, wherein the strengthening agent is silica fume.

19. A method of cementing within a subterranean formation for an oil and gas well, comprising:

(a) activating the storable, low-density, hydraulically-active, cementitious slurry of Claim 1;

(b) pumping the activated slurry into the subterranean formation; and

(c) allowing the activated slurry to set.

20. The method of Claim 19, wherein the storable, low-density, hydraulically-active, cementitious slurry is activated with a compound selected from the group consisting of Group IA and IIA hydroxides, sulfates, aluminates, carbonates, and silicates; triethanolamine; and calcium chloride.

21. The method of Claim 20, wherein the activating compound is sodium silicate.

22. A method of cementing within a subterranean formation for an oil and gas well, the method which comprises the steps of:

(a) formulating a storable, low-density, hydraulically-active, cementitious slurry by mixing together a hydraulically-active cementitious material with a set retarder, plasticizer, glass or ceramic micro-spheres, and strengthening agent;

(b) storing the slurry until required for cementing;

(c) activating the slurry;

(d) pumping the activated slurry into the subterranean formation; and

(e) allowing the activated slurry to set

wherein the slurry formulated in step (a) is substantially free of a suspension agent.

23. The method of Claim 22, wherein the plasticizer is sodium partially neutralized polyacrylate homopolymer.

24. The method of Claim 22, wherein the micro-spheres are borosilicate glass.

25. The method of Claim 22, wherein the microspheres are ceramic.

26. The method of Claim 22, wherein the storable, low-density, hydraulically-active, cementitious slurry is transferred to a second location prior to step (c).

27. The method of Claim 26, wherein the second location is the site of the wellbore.